SUMMARY OF THE PHASE TWO INVESTIGATION OF DEAD CREEK, SAUGET/CAHOKIA, ILLINOIS

Phase One of the Illinois EPA investigation of the Dead Creek area between Queeny Avenue and Judith Lane revealed a pattern of high concentrations of organic contaminants in the surface soil of the north end of the ditch, with decreasing values southward; and, high concentrations of approximately five metals and one non-metal in the surface soil of the south end of the ditch, with decreasing values northward.

Phase Two has now been completed. This phase is a determination of the extent of contamination of the sub-surface soil in the ditch area of primary concern (between Queeny Avenue and Judith Iane), as well as of the surface soil, sub-surface soil, and ground-water in all directions away from the main ditch.

Sub-surface soil analyses of the main ditch area paralleled surface analyses, but concentrations were lower, again showing accumulations of organics (mainly PCB's) in the north end and inorganics to the south.

West of the ditch: Surface and sub-surface soil samples were found to contain trace levels of PCB's, but normal levels of inorganics. Ground-water was normal, with the exception of one monitoring well about 50 ft. west of the ditch. This well showed sub-ppm levels of chlorinated aromatics, e.g., monochlorobenzene, dichlorobenzene, chloronitrobenzene, and dichlorophenol.

<u>South</u> of Judith Lane: Surface and sub-surface soil samples of the ditch were all normal for inorganics and organics, with the exception of one area 25 ft. south of Judith Lane and a second area at the Cahokia Street culvert. These two areas showed slightly elevated levels of PCB's, five metals, and one non-metal.

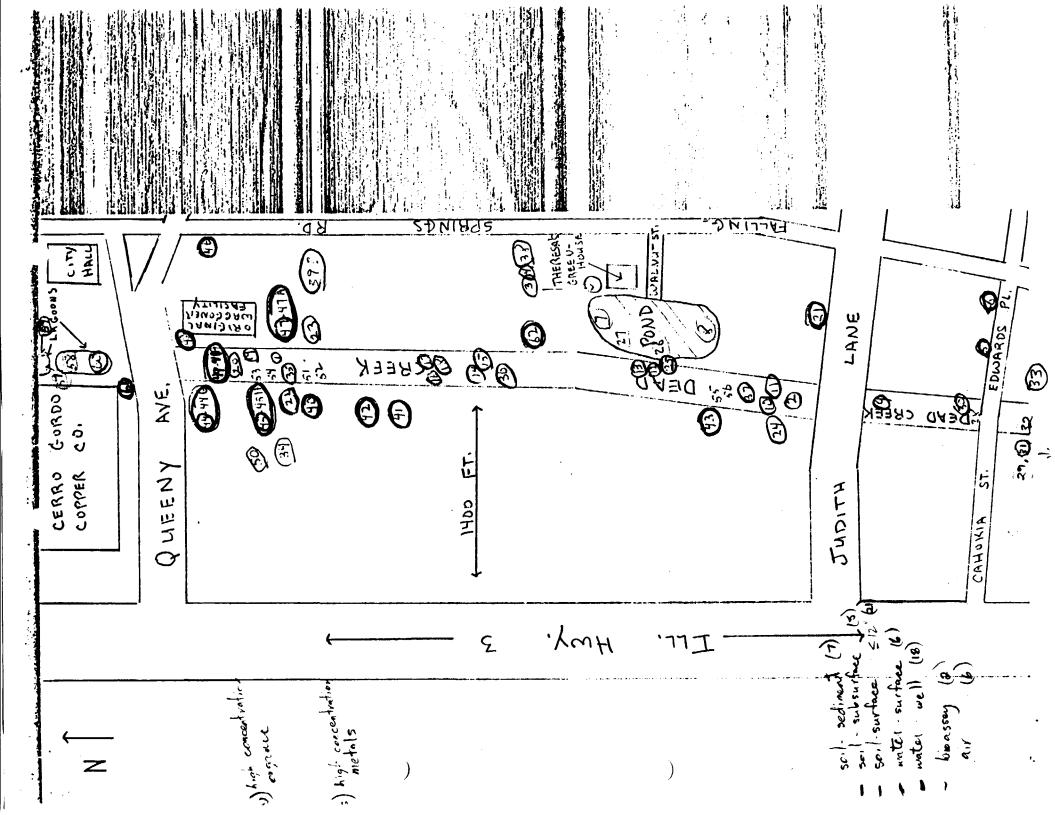
East of the ditch: Surface and sub-surface soil samples were normal with respect to organics and inorganics. One ground-water sample from a well sunk just south of Queeny Avenue showed trace levels of PCB's and normal levels of inorganics. Sediment from the drainage cut between the ditch and the back-up pond showed moderately high levels of PCB's and inorganics. Both the pond water and pond sediment showed slightly elevated levels of PCB's and normal levels of inorganics.

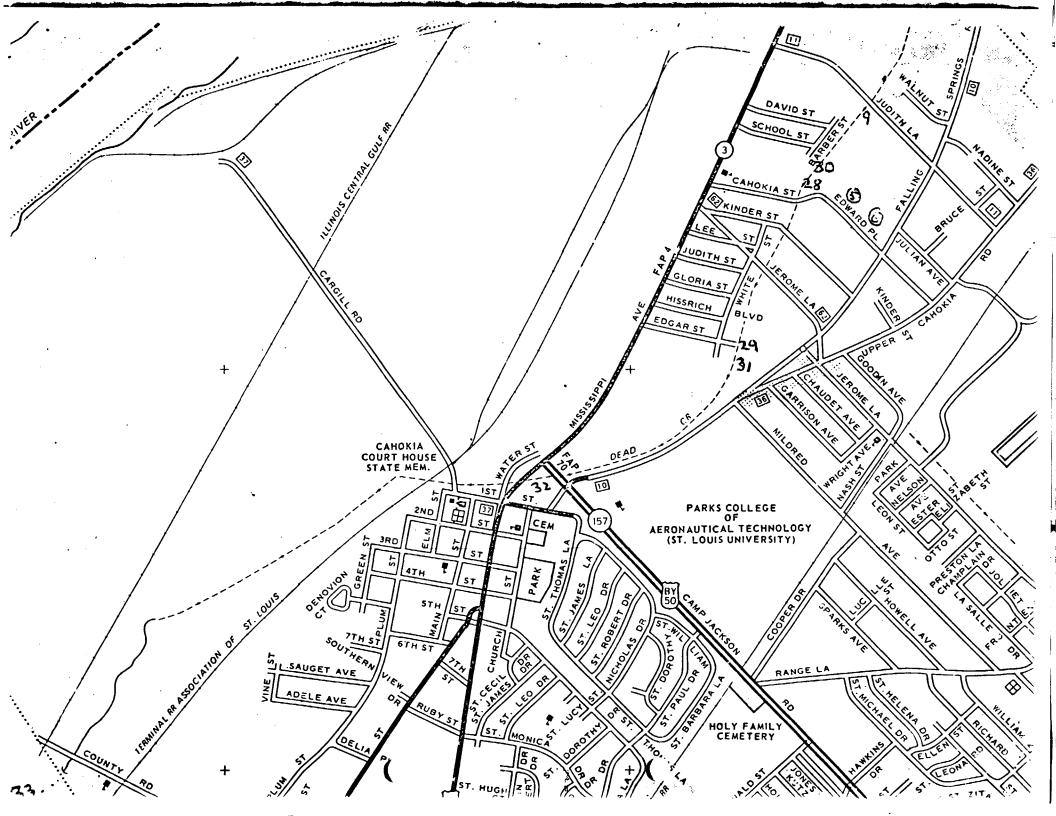
North of Queeny Avenue: Water from two lagoons on the Eastern edge of Cerro Gordo Copper Company property north of Queeny Avenue showed trace levels of PCB's and moderately elevated levels of Copper, lead, nickel, phosphorous, and zinc. Sediment from these lagoons showed low levels of PCB's, but were not analyzed for inorganics. Also, a well was drilled by the Illinois EPA on Cerro Gordo Copper Company property approximately 20 yeards west of the Dead Creek culvert and 20 yards north of Queeny Avenue. Ground-water from this well at approximately 16 ft. deep showed no PCB's, low levels of chlorobenzenes and chloroaniline, and moderately elevated levels of copper and zinc.

Air grab samples in Dead Creek were negative for non-disturbed soil conditions, as was long-term air monitoring. With the soil disturbed to promote vapor release, grab samples were positive for chlorinated hydrocarbons in the north end of the ditch, but negative in the south end

of the ditch. Also, for disturbed soil, long-term air monitoring was negative in the north end of the ditch, but showed trace levels of xylene in the south end of the ditch. These air analyses are inconclusive, except possibly to indicate that potentially harmful vapors are released only when the soil in the Dead Creek bed is disturbed.

All drinking water wells in the area were sampled and found to be not contaminated.





THROUGH October 31 . 1980 FROM CAHOKIA DEAD CREEK AREA. (ALL RESULTS IN PPM UNLESS GINERWISE STATED).

		HROUGH O	ctober 31	, 1980	FROM CAI	HOKIA DEAD	CREEK ARI	SA. (ALL	RESULIS			HERWISE 3	TALED).	(Di) Chloro	(Tri) Chloro	Chloro- Nitro-	Dich- loro
	CHEMICAL	BARIUM	COPPER	LEAD	NICKEL	PHOSPHO- ROUS	ZINC	P.CB's	CHLOR- DANE	Alkyl-*: Benzenes	PHENYL	TOI.UENE	XYLENE	Benz- ene	Benz- ene	Benz- ene	Phen
	Soil Normals (PPM)	250	70	16	80	1180	132	*M.A.C 28 PPB		*M.A.C. 10-100 PPM	*M.A.C.	*M.A.C. 118 PPM	*M.A.C. 3 PPM		*M.A.C. 1-10 PP		*M.A 500
7	Location																
.	Soil - 50 yds. s. of Queeny Ave.	-	-	_				5200					_		_	_	_
	Soil - 40 yds. n. of Judith Lane	4800	32000	2400	3500	7040	25000	120				<u>-</u>	_			_	
	M.A.C. for drinking water (PPM)	〈 1	〈 1	₹0.05	<1	< 1	く 5.0	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NON
Ī	Water-well at 101 Walnut St.	0.4	0.03	0.00	(0.005	0.50	1.6	N.D.	14 PPB	∢ 10 PPB	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	Water-well at 101 Walnut St. (IDPH)	0.2	0.3	0.01	0.008	<1.0	0.8	N.D.	N.D.	_	-	_	-	-	-	_	_
1	Water-well at 113 Edwards St. (IDPH)	0.4	0.001	0.001	(0.01	⟨1.0	0.2	N.D.	N.D.	_	-	_	_	-	_	-	i -
	Water-well at 118 Edwards St. (IDPH)	0.2	0.004	0.004	<0.01	< 1.0	0.2	N.D.	N.D.	-	-	-	_	-	_	_	_
1	M.A.C. for surface water (PPM)	< 5.0	< 0.02	<0.1	<1.0	< 1.0	<1.0	28 PPB	50 PPB	10-100 PPM	_	118 PPM	3 РРМ			10-100 PPM	0.5 1
i	Water-suYF ← C €. N. area of pond	0.2	0.04	0.00	0.02	0.2	0.1	0.9 PPB	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	Water-surface S. area of pond	0.5	0.3	0.01	0.05	0.3	0.7	4 PPB	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	Soil-25 ft. S of Judith Lane - 6"	1300	15000	800	2000		12000	120	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
1	Health Fffects	Skin Effects	Affects Kidneys,	Causes Anemia	Affects Skin &	Affects Liver	General- ly of	Affect Skin,	Affects Skin,		Toxic to CNS	Affects Liver &	Causes Liver &	Affects Liver,	Affects Liver,	Affects Liver,	
1	N.D.=None Detected *	& Resp- iratory	Skin,	& Aff- ects	Respir- atory	Skin, Blood,	low Toxic-	Eyes, Liver.	Kidneys, Liver.	Skin.	and lungs.	Kidneys	Kidney Diseases	Lungs, Skin	Lungs, Skin.	Lungs, Skin	Kidno
•	M.A.C.=Maximum Allow- able Concentration	Problem		Kidneys	System	Teeth.	ity.		•	** DIETHYLB	,					!	
	(1/10 TL _m 96 for soil ar surface water)	ıd		,			į		Í	TRIMETHY	LBENZENE		,		1		

TELLINOIS ENA EABORATURE ANADIOUS OF SMERKES TAKEN SECTEMBER 0, 1900

	T.	THROUGH 0				MOKIA DEAD						HERWISE S	TATED).	Lana	(Tri)	lctions.	
))		. •	•	(Di) Chloro	Chloro	Chloro- Nitro-	Dich- loro
Ī	CHEMICAL -	BARIUM	COPPER	LEAD	NICKEL	PHOSPHO- ROUS	ZINC	P.CB's	CHLOR- DANE	Alkyl- Benzenes	BI- PHENYL	TOI.UENE	XYLENE	Benz- ene	Benz-	Benz-	Pheno!
1	Soil Normals (PPM)	250	70	16	80	1180	132	*M.A.C.	*M.A.C.	*M.A.C. 10-100 PPM			*M.A.C. 3 PPM	*M.A.C.		*:1.A.C.	*M.A.C 500 PP
1	Location																
•	Soil - 125 ft. N. of Judith Lane	1800	19500	1500	2000		14000	160	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	Soil - 125 ft. N. of Judith Lane 12"	900	4100	1000	500	-	15000	0.6	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	M.A.C. for drinking water (PPM)	< 1	〈 1	₹0.05	<1	< 1	4 5.0	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
12	Soil 100 yds. N. of	2300	13000	1200	1150	_	14000	110	N.D.	N.Đ.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
13	Soil - 100 yds. N. of	650	5700	900	820	-	18000	8	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
14	Soil - 100 yds. N. of # (12) - Surface	2300	15000	2000	1000	-	19000	59	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
15	Soil - 100 yds. N. of	950	1400	2500	1100	_	24000	3	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
•	M.A.C. for surface water (PPM)	< 5.0	<0.02	<0.1	<1.0	< 1.0	<1.0	28 PPB	50 PPB	10-100 PPM		118 PPM	3 PPM	1	• '	,10-100 .PPM	0.5 PP
16	Soil - 100 yds. N. of	1050	3200	1600	1300	-	14000	220	N.D.	N.D.	N.D.	N.D.	N.D.	_ N.D.	N.D.	N.D.	N.D.
17	Soil - 100 yds. N. of	880	5700	1000	700		19000	32	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
18	Soil - 100 yds. N. of	240	180	<25	100	-	1750	0.05	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	Health Effects	Skin Effects	Affects Kidneys,	Causes Anemia	Affects Skin &	Affects Liver,	General ly of	Affect Skin,	Affects Skin,	Effect Lungs,	Toxic to CNS	Affects Liver &	Causes Liver &	Affects Liver,	Liver,	Liver,	CNS &
1	N.D.=None Detected *	& Resp- iratory	Skin,	& Aff- ects	Respir- atory	Skin, Blood,	low Toxic-		Kidneys Liver.	Skin.	and lungs.	Kidneys	Kidney Diseases	Lungs, Skin	Lungs, Skin.	Lungs, Skin	Kidney:
	A.A.C.=Maximum Allow- ible Concentration	Problems	į	Kidneys	System	Tecth.	i.ty.		j 		.				1		1
ŀ	(1/10 TLm96 for soil an	ıd	,	,	.		;		1		<i>j</i>	. 1	d f	<i>i</i>	, !		ŧ
	surface water)	r	. 1	, F	1	•	7	,	A.		1	i	j	1		Ţ	

	т	нкоисн о	ctober 31	, 1980	FROM CAL	NOKIA DEAD	CREEK ARI	EA. (ALL	. RESULTS	IN PRH VI	NLESS OF	HERWISE S	TATED).	(Di) Chloro	(Tri) Chloro	Chloro- Nitro-	Dich- loro
	CHEMICAL	BARIUM	COPPER	LEAD	NICKEL	PHOSPHO- ROUS	ZINC	PCB's	CHLOR- DANE	Alkyl- Benzenes	BI- PHENYI	TOLUENE	XYLENE	Benz- ene	Benz- ene	Benz-	Phenol
İ	Soil Normals (PPM)	250	70	16	80	1180	132	*M.A.C 28 PPB	*M.A.C. 50 PPB	*M.A.C. 10-100 PPM	*M.A.C.	*M.A.C. 118 PPM	*M.A.C. 3 PPM	*M.A.C. 5 PPM	*M.A.C. 1-10 PPN	*1.A.C. 10-100 PPM	*M.A.
-	Location																
19	Soil - 135 yds. N. of # (16)	370	140	< 25	< 10	-	< 50	1600	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
2 01	Soil - 135 yds. N. of # (6) 5 yds. W. of (19	1400	840	∠100	∠ 10		260	17000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	M.A.C. for drinking water (PPM)	〈 1	〈 1	₹0.05	<1	∠ 1	ح 5.0	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
21	Water - well at 113 Judith Lane	0.05	0.06	<0.04	0.02	0.2	0.8	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
22	Soil - 96 yds. S. of Queeny Ave., 5 yds. W. of fence	510	100	43	∠ 10	_	2000	1.1	N.D	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
23	Soil - 120 yds. S. of Queeny Ave., 1 yd. Eof	1200	150	60	80	-	700	80	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
24	Soil - 30 yds. N. of Judith Lang 1 yd. W. of fence	230	100	< 20	12	_	230	< 0.05	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	M.A.C. for surface water (PPM)	< 5.0	< 0.02	<0.1	∠1.0	< 1.0	<1.0	28 PPB	50 PPB	10-100 PPM		118 PPM	3 PPM	5 PPM		10-100 PPM	0.5 PP
, <u> </u>	Soil - Drainage Cut.	5500	21900	1700	1700	-	19900	540	N.D.	N.D.	N.D.	N.D.	N.D.	0.4	N.D.	N.D.	N.D.
26	Sediment - W. Pond Area, N. of Drainage	4400	18700	1400	1600	_	17700	1100	N.D.	N.D.	N.D.	N.D.	N.D.	23	N.D.	N.D.	N.D.
27	Sediment - NW Pond Area	350	4500	130	590	-	2600	24	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
j	Health Effects	Skin	Affects		Affects	Affects	General	Affect	Affects Skin,		Toxic to CNS	Affects Liver &	Causes Liver &	Affects Liver,	Affects Liver,	Affects Liver,	Affect:
1	N.D.=None Detected *	Effects & Resp- iratory	Kidneys, Skin,		Respir- atory	Liver, Skin, Blood,	ly of low Toxic-	Skin, Eyes, Liver.	Kidneys, Liver.	Skin.	and lungs.	Kidneys	Kidney Diseases.	Lungs, Skin	Lungs, Skin.	Lungs, Skin	Kidney:
	M.A.C.=Maximum Allow- able Concentration	Problems		Kidney	System	Teeth.	ity.		1							; !	
:	(1/10 II _m 95 for soil an Surface water)	d	. 1			•	j								ļ		

LITTOUTH ALL CITICICATIONS	Carly March 19 0	L 5.7+11 1*PO	Amistr 8	DELIE DEK	υ,	下とつわ	
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	•	тнкоисн с	october 31	, 1980	FROM CA	HOKTA DEAD	CREEK ARI	EA. (ALI	RESULTS	IN PPM UN	LESS OF	HERWISE S	TATED).	[(Di)	(Tri)	lentono	
)	,			,)		· ·		Chloro	Chloro	Chloro- Nitro-	loto
-	CHEMICAL	BARIUM	COPPER	LEAD	NICKEL	PHOSPHO- ROUS	ZINC	P.CB's	CHLOR- DANE	Alkyl- Benzenes	BI- PHENYI	roi.uene	XYLENE	Benz- ene	Benz- ene	Benz- ene	Pheno
`	Soil Normals (PPM)	250	70	16	80	1180	132	*M.A.C 28 PPB	*M.A.C. 50 PPB	*M.A.C. 10-100 PPM	*M.A.C.	*M.A.C. 118 PPM	*M.A.C. 3 PPM	*M.A.C. 5 PPM	*M.A.C. 1-10 PPN	*M.A.C. 10-100 PPM	*M.A. 500 P
•	Location																
28	Sediment - 16 yds. N. of Cahokia St.	4700	17200	1300	2300		21000	120	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
29	Sediment - Jct. Dead Creek & Edgar Street	210	320	260	45		900	2.8	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	M.A.C. for drinking water (PPM)	< 1	〈 1	₹0.05	<1	< 1	< 5.0	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
30	Water - 45 yds. N. of Cahokia Street	0.12	0.26	<0.05	0.19	0.24	1.0	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
31	Water - Jct. Dead Creek & Edgar Street	0.08	0.04	<0.05	0.01	0.20	0.06	<0.1 PPB	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
32	Sediment - Just S. of Jct. Hwys. 3 & 157	390	1800	250	600	-	5600	2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
- 33	Soil - NW of STP Jct. with Rock Road	475	360	75	< 50		780	<0.05	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	M.A.C. for surface water (PPM)	< 5.0	< 0.02	<0.1	<1.0	< 1.0	<1.0	28 PPB	50 РРВ	10-100 PPM	-	118 PPM	3 РРМ	5 PPM		10-100 PPM	0.5 PI
34	Bean Plant Leaf 25 ft. W. of ditch	35	85	250	12	_	130	0.01	F. Stat. 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	_	_	_	_	_	_	- 1	-
35	Soil - 40 yds. S. of Queeny Avenue	2500	1000	260	130	2000	1500	1000	N.D.	3 70	N.D.	N.D.	N.D.	660	78	1701	N.D.
36	Soil - 268 Steps S. of # (35)	5000	44500	2000	3000	8900	62900	350	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
_	Health Effects	Skin Effects	Affects Kidneys		Affects Skin &	Affects	General- ly of	Affect Skin,	Affects Skin,	Effect Lungs,	Toxic to CNS	Affects Liver &	Causes Liver &	Affects Liver,	Affects Liver,	Affects Liver,	Affect CNS &
	N.D.=None Detected	& Resp- iratory	Skin,	& Aff-	Respir- atory	Skin, Blood,	low Toxic-	Eyes, Liver.	Kidneys, Liver.	Skin.	and lungs.	Kidneys	Kidney Diseases	Lungs, Skin	Lungs, Skin.	Lungs, Skin	Kidney
	M.A.C.=Maximum Allow- able Concentration	Problem		Kidneys	System	Teeth.	ity.		į								
	(1/10 TL _m 96 for soil a surface water)	and					4		į.			,				į	

	THROUGH (October 31	, 1980	FROM CA	HOKIA DEAD	CREEK ARI	E A. (ALL	. RESULTS	IN PPM U	NLESS U.	HERWISE S	TATED).	(Di) Chloro	(Tri) Chloro	Chloro- Nitro-	Dich- loro
CHEMICAL	BARIUM	COPPER	LEAD	NICKEL	PHOSPHO- ROUS	ZINC	PCB's	CHLOR- DANE	Alkyl- Benzenes	BI- PHENYI	TOLUENE	XYLENE	Benz- ene	Benz- ene	Benz- ene	Pheno
Soil Normals (PPM)	250	70	16	80	1180	132	*M.A.C 28 PPB	*M.A.C. 50 PPB	*M.A.C. 10-100 PPM	*M.A.C.	*M.A.C. 118 PPM	*M.A.C. 3 PPM	*M.A.C. 5 PPM	*M.A.C. 1-10 PPN		*M.A. 500 P
Location																
Soil - 270 steps S. of # 36	2500	28000	1700		4700	28000	73	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Water-well at 101 Walnut Street	-	_	-	_	-		N.D.	95 PPB	N.D.	-	-	_	-	-	_	-
M.A.C. for drinking water (PPM)	〈 1	<1	₹0.05	<1	< 1	< 5.0	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
Water-well 500 ft.	t. 1.3	0.5	0.2	0.1	2.9	0.6	1.0 PPB	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Water-well 500 ft. 5 of Queeny Ave., 10 W. 55 fence	5.	0.1	0.2	0.1	1.2	0.4	1.2 PPB	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	1.2
Water-well 800 ft. of Queeny Ave., 10 W. Defence	t. 2.9	1.1	0.3	0.9	3.3	6.2	0.1 PPB	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Water-well 700 ft. of Queeny Ave., 10 W. of fence	t. 2.2	0.3	0.2	0.1	2.7	0.3	40.1 PPB	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.		N.D.
M.A.C. for surface water (PPM)	< 5.0	< 0.02	<0.1	∠1.0	< 1.0	<1.0	28 PPB	50 PPB	10-100 PPM	_	118 PPM	3 PPM	5 PPM		10-100 PPM	0.5 P
Water-well 1500 ft. of Queeny Ave., 10 W. of fence		0.7	0.3	0.8	6.0	3.7	40.1 PPB	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Water-well 100 ft. S of Queeny, 10 ft. W		0.4	0.0	0.1	1.8	0.1	41 PPB	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
Soil from # (44) 7.5 - 9.0 ft. deep	-	140	15	36	592	183	ረዐ.01 PPM	N.D.	N.D.	N.D.	N.D.	Й.D.	N.D.	N.D.	N.D.	
Health Effects	Skin Effects	Affects Kidneys,		Affects Skin &	Affects Liver,	General- ly of	Affect Skin,	Affects Skin,	Effect Lungs,	Toxic to CNS	Affects Liver &	Causes Liver &	Affects Liver,	Affects Liver,	Affects	
N.D.=None Detected M.A.C.=Maximum Allow	& Resp- iratory	Skin,	& AFE-	Respir- atory	Skin, Blood, Teeth.	low Toxic- ity.	Eyes, Liver.	Kidneys, Liver.	Skin.	and lungs.	Kidneys	Kidney Diseases	Lungs, Skin	Lungs, Skin.	Lungs, Skin	Kidney
able Concentration (1/10 Ti _m 96 for soil surface water)	and		}			į			:							

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CENTAGES DEA DADORATORE SOURCE TO CONTRIBE TAKEN SELECTION O, 1900

1	THROUGH C	ctober 31	, 1980	FROM CA)	CREEK ARI	EA. (ALL	RESULTS)		HERWISE S	TATED).	(Di) Chloro	(Tri) Chloro	Chloro- Nitro-	Dich- loro
CHEMICAL>	BARIUM	COPPER	LEAD	NICKEL	PHOSPHO- ROUS	ZINC	PCB's	CHLOR- DANE	Alkyl- Benzenes	BI- PHENYI	TOLUENE	XYLENE	Benz-	Benz- ene	Benz-	Phen
Soil Normals (PPM)	250	70	16	80	1180	132	*M.A.C 28 PPB	*M.A.C. 50 PPB	*M.A.C. 10-100 PPM		*M.A.C. 118 PPM	*M.A.C. 3 PPM	*M.A.C.		*M.A.C.	*M.A 500
Location																
Soil from # 44 10-11.5 ft. deep	-	90	11	21	475	53	<0.01 PPM	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Soil from # 44 12.5-14 ft. deep	-	59	8	11	383	36	<0.01 PPM	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
M.A.C. for drinking water (PPM)	< 1	< 1	₹0.05	<1	< 1	≺ 5.0	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NON
Soil from # (44) 15-16.5 ft. deep	-	54	9	15	391	43	<0.01 PPM	N.D.	·N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Soil from # 44 17.5-19 ft. deep	-	56	12	21	540	49	<0.01 PPM	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Soil from # 44 20-21.5 ft. deep	-	28	3	8	249	29	0.03 PPM	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Soil from # (44) 35-36.5 ft. deep	-	14	3	6	183	19	<0.01 PPM	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
M.A.C. for surface water (PPM)	< 5.0	<0.02	<0.1	<1.0	< 1.0	<1.0	28 PPB	50 PPB	10-100 PPM	-	118 PPM	3 РРМ	5 PPM		10-100 PPM	0.5
Water-well 400 ft. S. of Oueeny Ave., 50 ft. W of fence	2.1	0.7	0.3	0.3	9.4	0.8	(1 PPB	N.D.	N.D.	N.D.	N.D.	N.D.	25 PPB	Mono≃ i	Chloro- Phenol 630 PPB	890 PPB
Soil from # 45 0 - 2 ft. deep	-	91	170	37	1340	370	0.62 PPM	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
5Soil from # (45) B5-6.5 ft. deep	-	53	49	39	681	313	<0.01 PPM	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Health Effects	Skin Effects	Affects Kidneys,	Causes Anemia	Affects	Affects Liver,	General- ly of	Affect Skin,	Affects Skin,	Effect Lungs,	Toxic to CNS	Affects Liver &	Causes Liver &	Affects Liver,	Affects Liver,	Affect: Liver,	Affe CNS
N.D.=None Detected * M.A.C.=Maximum Allow-	& Resp- iratory Problems	Skin,	& Aff-	Respir- atory	Skin, Blood, Teeth.	low Toxic- ity.	Eyes, Liver.	Kidneys, Liver.	Skin.	and lungs.	Kidneys	Kidney Discases	Lungs, Skin	Lungs, Skin.	Lungs, Skin	Kidn
able Concentration (1/10 TL _m 96 for soil at surface water)	ıd	_						;		•						į

THROUGH October 31 , 1980 FROM CAHOKIA DEAD CREEK AREA. (ALL RESULTS IN PPM UNLESS OTHERWISE STATED).

i	. T	HROUGH O	ctober 31	, 1980	FROM CAL	IOKIA DEAD	CREEK ARE	A. (ALL	RESULTS	IN PPN UN	LESS UI	HEKWISE S	IALED).	(Di) Chloro	(Tri) Chloro	Chloro- Nitro-	Dich- loro
	CHEMICAL	BARIUM	COPPER	LEAD	NICKEL	PHOSPHO- ROUS	ZINC	PCB's	CHLOR- DANE	Alkyl- Benzenes	BI- PHENYI	TOLUENE	XYLENE	Benz- ene	Benz- e <u>ne</u>	Benz-	Pheno
-	Soil Normals (PPM)	250	70	16	80	1180	132	*M.A.C. 28 PPB	*M.A.C. 50 PPB	*M.A.C. 10-100 PPM	*M.A.C.	*M.A.C. 118 PPM	*M.A.C. 3 PPM	*M.A.C. 5 PPM	*M.A.C. 1-10 PPN	*:4.A.C. 10-100 PPM	*M.A. 500 P
	Location																
45 I C	Soil from # 45 10-11.5 ft. deep	-	-	-	-	-	-	<0.01 PPM	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
45 n	Soil from # (45) 15-16.5 ft. deep	_	-	-		-	_	<0.01 PPM	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	M.A.C. for drinking water (PPM)	〈 1	〈 1	₹0.05	<1	< 1	ح 5.0	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
45 E	Soil from # 45 17.5-19 ft. deep	-	_	_	-	-	-	(0.01 PPM	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
45 F	Soil from # (45) 20-21.5 ft. deep	-	-	. –	-	_	-	<0.01 PPM	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.		N.D.
45 G	Soil from # 45 25-26.5 ft. deep	-	_	-	-	_	-	<0.01 PPM	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
45 H	Soil from # 45 30-31.5 ft. deep	-		-	-	-	_	<0.01 PPM	N.D.	N.D.	N.D.	Ŋ.D.	N.D.	N.D.	N.D.		N.D.
! **	M.A.C. for surface water (PPM)	< 5.0	< 0.02	<0.1	<1.0	< 1.0	<1.0	28 PPB	50 PPB	10-100 PPM	_	118 PPM	3 РРМ			10-100 PPM	0.5 Pl
•	Water-well 800 ft. S.of Queeny Ave., 20 ft. W. of Falling Springs Rd. Water-well 450 ft. S.of		0.04	0.0	0.0	0.2	0.0	<0.1 PPB	N.D.	N.D.	N.D.	N.D.	N.D	N.D.	N.D.	N.D.	N.D.
47	Water-well 450 ft. S.of Queeny Ave., 10 ft. E. of fence	0.2	0.1	0.0	0.5	0.7	0.1	0.1 PPB	N.D.	N.D.	N.D.	N.D.		Cyclo- Hexanone 120 PPB		hloro-	N.D.
	Soil from # 47 18-19.5 ft. deep	-	· -	-	-	-	-	<0.1 PPM	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.		N.D.
	Health Effects ———	Skin Effects	Affects Kidneys,	Causes Anemia	Affects	Affects Liver,	General-	Affect Skin,	Affects Skin.	Effect Lungs,	Toxic to CNS	Affects Liver &	Causes Liver &	Affects Liver,	Affects Liver,	Affects Liver,	
	N.D.=None Detected	& Resp- iratory Problems	Skin,	& Aff-	Respir- atory	Skin, Blood, Tecth.	low Toxic-	Eyes, Liver.	Kidneys, Liver.	Skin.	and lungs.	Kidneys	Kidney Diseases	Lungs, Skin	Lungs, Skin.	Lungs, Skin	Kidney
	M.A.C.=Maximum Allow- able Concentration		•	Ridneys	System	recen.	ity.								ļ		
ŧ	(1/10 TL _m 96 for soil ar surface water)	id	- (Arriva			75	ं केंद्र इ.स.	A K				

•	T	тикоиси о	ctober 31			OKIA DEAD						IERWISE S	TATED).	(Di)	(Tri)	Chloro-	1
				·	·	<i>,</i>	·	<u> </u>	4	`		,		Chloro	Chloro	Nitro-	loro
	CHEMICAL	BARIUM	COPPER	LEAD	NICKEL	PHOSPHO- ROUS	ZINC	P.CB's	CHLOR- DANE	Alkyl- Benzenes	BI- PHENYL	COLUENE	XYLENE	Benz- ene	Benz- ene	Benz-	Pheno
	Soil Normals (PPM)	250	70	16	80	1180	132	*M.A.C 28 PPB	*M.A.C. 50 PPB	*M.A.C. 10-100 PPM	M.A.C.	*M.A.C. 118 PPM	*M.A.C. 3 PPM	*M.A.C. 5 PPM	*M.A.C. 1-10 PPM		*M.A. 500 P
	Marie Constitution and Constitution of the Con						 	1	-	TPPM						PPM	
_	Location										/						
48	Water-well 200 ft. S. of Queeny Ave., 10 ft. E. of fence		2.3	0.7	1.9	16.0	9.0	2.7 PPB	N.D.	Cyclohexa None 58 PPB	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
49	Soil 200 ft. S. of Queeny Ave., in Dead Creek, 0 - 1 ft.	-	-	-	_	-	-	9200 PPM	N.D.	N.D.	6000 PPM	N.D.	540 PPM	12000 PPM	380 PPM	200 PPM	N.D.
	M.A.C. for drinking water (PPM)	< 1	< 1	₹0.05	<1	< 1	۷ 5.0	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	none	NONE
49 A	Soil from # 49 1-2 ft. deep	-		_	-	-	-	2600 PPM	N.D.	N.D.	9000 PPM	N.D.	250 PPM	8900 PPM	3700 PPM	240 PPM	N.D.
	Soil from #49 2-3 ft. deep	-	-	_	-	_	_	920 PPM	N.D.	N.D.	1100 PPM	N.D.	N.D.	240 PPM	590 PPM	N.D.	N.D.
49 C	Soil from # 49 3-4 ft. deep	_	_ :	-	_	-	-	240 PPM	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
.49 D	Soil from #(49) 4-5 ft. deep	_		-	_	_	_	53 PPM	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
- =	M.A.C. for surface water (PPM)	< 5.0	< 0.02	<0.1	<1.0	< 1.0	<1.0	28 PPB	50 PPB	10-100 PPM	-	118 PPM	3 РРМ			10-100 ; PPM	0.5 P
	Soil from # 49 5-6 ft. deep	-	_	-	-	-	_	53 PPM	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
149 F	Soil from # 49 6-7 ft. deep	-	-	-	-	-	-	54 PPM	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
50	Crops from Hankins Property-Corn, Okra	_	-	-	-	-	_	0.06=Sc N.D.=C	ybeans orn,Okra	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
_	Soybeans Health Effects ————————————————————————————————————	Skin Effects	Affects Kidneys,	Causes Anemia	Affects	Affects Liver,	General- ly of	Affect Skin,	Affects Skin,	Effect Lungs,	Toxic to CNS	Affects Liver &	Causes Liver &	Affects Liver,	Affects Liver,	Affects Liver,	
	N.D.=None Detected	& Resp- iratory	Skin,	& Aff- ects	Respir- atory	Skin, Blood,	low Toxic-	Eyes, Liver.	Kidneys, Liver.	Skin.	and lungs.	Kidneys	Kidney Diseases	Lungs, Skin	Lungs, Skin.	Lungs, Skin	Kidney
	M.A.CMaximum Allow- able Concentration	Problems		Kidneys	System	Teeth.	ity.									į	
	(1/10 TL _m 96 for soil and surface water)	ıd												4			
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THROUGH October 31 , 1980 FROM CAHOKIA DEAD CREEK AREA. (ALL RESULTS IN PPM UNLESS OTHERWISE STATED). [(Di) | (Tri) | Chloro-| Dich

!	en e	incoon o		, 1,00			,							(Di) Chloro	(Tri) Chloro	Chloro- Nitro-	Dich loro
	CHEMICAL	BARIUM	COPPER	LEAD	NICKEL	PHOSPHO- ROUS	ZINC	PCB's	CHLOR- DANE	Alkyl- Benzenes		TOLUENE	XYLENE	Benz- ene	Benz- ene	Benz- ene	Phene
-	Soil Normals (PPM)	250	70	16	80	1180	132	*M.A.C 28 PPB	*M.A.C. 50 PPB	*M.A.C. 10-100 PPM	*M.A.C.	*M.A.C. 118 PPM	*M.A.C. 3 PPM	*M.A.C. 5 PPM	*M.A.C. 1-10 PPM		*M.A 500
	Location																
	Air - 20 yds. S. Queeny Ave Soil Disturbed	-	-	_	-		_	POSITIV	E DETECTO	R TUBE RE	SULT FO	HALOGENA	TED HYDRO	ARBONS			
	Air - 50 yds. N. Judith Lane - soll undisturbed and thendisturbed			_		_	_	NEGATIV	E DETECTO	R TUBE RE	SULT FO	HALOGENA	TED HYDRO	ARBONS			
	M.A.C. for drinking water (PPM)	〈 1	〈 1	₹0.05	<1	< 1	ح 5.0	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NON
53	Air- 40 yds S. of Queeny Aye., - undisturbed soil	_	-	_	-	-	-	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	Air - 40 yds. S. of ' Queeny Ave - disturbed soil	-	_	<u>-</u>			_	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
55 1	Air - 60 yds. N. of Judith Ln., undisturbed	-	.	_		-	-	N.D.	N.D.	N.D.	N.D.	N.D.	0.2	N.D.	N.D.	N.D.	N.D.
	Air-60 yds. N. of Judith Ln., disturbed			_	_	-	- -	N.D.	N.D.	N.D.	N.D.	N.D.	0.2	N.D.	N.D.	N.D.	N.D.
,	M.A.C. for surface water (PPM)	< 5.0	< 0.02	<0.1	∠1.0	< 1.0	<1.0	28 PPB	50 PPB	10-100 PPM	-	118 PPM	3 PPM	,	,	10-100 ; РРМ	0.5 I
ين 57	Cerro Copper Co. Sediment - N. Lagoon	-	_	=	-	-	_	2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
.58	Sediment - S. Lagoon Cerro Copper Co.	-	<u>-</u>	_		_	_	13	N.D.	N.D.	N.D.	N.D.	N.D.	1.7	N.D.	N.D.	Ņ.D.
-59	Water- N. Lagoon Cerro Copper Co.	1.2	4.5	6.6	4.2	1.9	30	22 PPB	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	Health Effects	Skin Effects	Affects Kidneys,		Affects Skin &	Affects Liver,	General-	Affect Skin,	Affects Skin.	Effect Lungs,	Toxic to CNS	Affects Liver &	Causes Liver &	Affects Liver,	Affects Liver,	Affects Liver.	Affec CNS &
	N.D.=None Detected	& Resp- iratory	Skin,	& Aff- ects	Respir- atory	Skin, Blood,	low Toxic-	Eyes, Liver.	Kidneys, Liver.	Skin.	and lungs.	Kidneys	Kidney Diseases	Lungs, Skin	Lungs, Skin.	Lungs, Skin	Kid ne _.
	M.A.C.=Maximum Allow- able Concentration	Problems	;	Kidneys	System	Teeth.	ity.										
1	(1/10 TL _m 96 for soil ar surface water)	ıđ	.						المعارب								20
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	т	нко ссн о	ctober 31	, 1980	FROM CA	HORIA DEAD	CREEK ARE	ALL (ALL	RESULTS	IN PPN UN	LESS OF	HERWISE S	TATED).	(Di) Chloro	(Tri) Chloro	Chloro- Nitro-	Dich- loro
	CHEMICAL	BARJUM	COPPER	LEAD	NICKEL	PHOSPHO- ROUS	ZINC	PCB's	CHLOR- DANE	Alkyl- Benzenes	BI- PHENYI	TOLUENE	XYLENE	Benz- ene	Benz-	Benz-	Phen
	Soil Normals (PPM)	250	70	16	80	1180	132	*M.A.C 28 PPB	*M.A.C. 50 PPB	*M.A.C. 10-100 PPM	*M.A.C.	*M.A.C. 118 PPM	*M.A.C. 3 PPM	*M.A.C. 5 PPM	*M.A.C. 1-10 PPN	*M.A.C.	*M.A 500
	Location																1
1	Water- S. Lagoon Cerro Copper Co.	0.7	3.6	2.8	3.3	3.4	17	28 PPB	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
V	Water-well 20 yds. N. of Queeny Ave., 20 yds W. of culvert	0.1	1.1	0.1	0.3	0.4	6.3	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	65 PPB	N.D.	N.D.	N.D.
	M.A.C. for drinking water (PPM)	〈 1	〈 1	₹0.05	<1	< 1	≺ 5.0	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
52	Water-well 300 yds. N of Judith L 10 yds. E. of fence	0.2	0.04	0.07	0.0	4.9	0.0	0.1 PPB	N.D	N.D	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	ND
	•											- An all and the second second					
X	SAMPLE #61	ALSO FO	UND TO CO	NTAIN 35	00 PPB C	HLORANILIN	E AND 100	PPB CHL	OROBENZEN	E							
																	
	M.A.C. for surface water (PPM)	< 5.0	< 0.02	<0.1	८1.0	< 1.0	<1.0	28 PPB	50 PPB	10-100 PPM	_	118 PPM	3 РРМ	5 PPM		10-100 i	0.5 P
j											7° 21. 488 Mg %						
1			were transfer facility for an income		al of the later of			-								-	
1														1.55	155		
1	Health Effects	Skin Effects	Affects Kidneys,	Causes Anemia	Affects Skin &	Affects Liver,	General- ly of	Affect Skin,	Affects Skin,		Toxic to CNS	Affects Liver &	Causes Liver &	Affects Liver,	Liver,	Liver,	CNS &
	N.D.=None Detected *	& Resp- iratory	Skin,		Respir- atory	Skin, Blood,	low Toxic-	Eyes, Liver.	Kidneys, Liver.		and lungs.	Kidneys	Kidney Diseases	Lungs, Skin	Lungs, Skin.	Lungs, Skin	Kidne
Ì	M.A.C.=Maximum Allow- able Concentration	Problems	S	Kidneys	System	Teeth.	ity.							`			·
,	(1/10 TL _m 96 for soil and surface water)	d	· · · · · · · · · · · · · · · · · · ·														N. Ar